CHAPTER 2 – ALTERNATIVES

INTRODUCTION

Under HFRA authorities, in order to expedite analyses, proposed projects inside a wildland-urban interface and within 1.5 miles of the boundary of an at-risk community do not require an alternative to the proposed action. However, a no action alternative is included in order to display the effects associated with not implementing the project. This chapter contains a description of the no action and proposed action alternatives, a description of mitigation and monitoring measures and a tabular comparison of the no action and action alternatives.

PROCESS USED TO FORMULATE ACTION ALTERNATIVE

The IDT developed the proposed action to respond to the project purpose and need, the existing Forest Plan objectives, goals, and standards, and public and agency concerns as directed by NEPA. The IDT consisted of Forest Service personnel who have expertise in different natural resource fields in order to provide a diverse, interdisciplinary approach to the project. A list of preparers is included in Appendix B.

The final, proposed action was developed through a series of resource evaluations, field visits, IDT meetings, and public interactions. If implemented, the project would be designed and administered in accordance with:

- Forest Plan Standards and Guidelines (USDA, 1987)
- Rules and Regulations pertaining to the Idaho Forest Practices Act (1998)
- PACISH Interim Guidelines for Riparian Habitat Conservation Areas (RHCA)
- R1/R4 Soil and Water Conservation Practices Handbook (Forest Service Handbook 2509.22)
- Idaho Water Quality and Wastewater Treatment Requirements (IDAPA 58.01.02) and Clean Water Act
- Lynx Conservation Assessment and Strategy
- Forest Service Manuals and Handbooks (FSH)

ALTERNATIVE DESCRIPTIONS

Alternative 1 – No Action

This alternative reflects the existing condition without any new management activities occurring and provides a baseline for comparing the action alternative. In other words, all current, routine and ongoing management activities would continue to occur under this alternative and no additional action would be taken to respond to the purpose of and need for action identified in Chapter 1.

Alternative 2 – Proposed Action

This alternative references Figure 2 and Table 1 and proposes to salvage dead and dying trees by mechanical treatments on 430 acres, to cut, pile and burn understory ladder fuels on 51 acres, and to reduce pockets of fuel using prescribed fire on 670 acres. The salvage work would be governed by a timber sale contract to remove about 3,500 ccf (1,750 mbf)

of dead trees having stems at least 7-inch diameter measured at 4.5 feet above ground level.

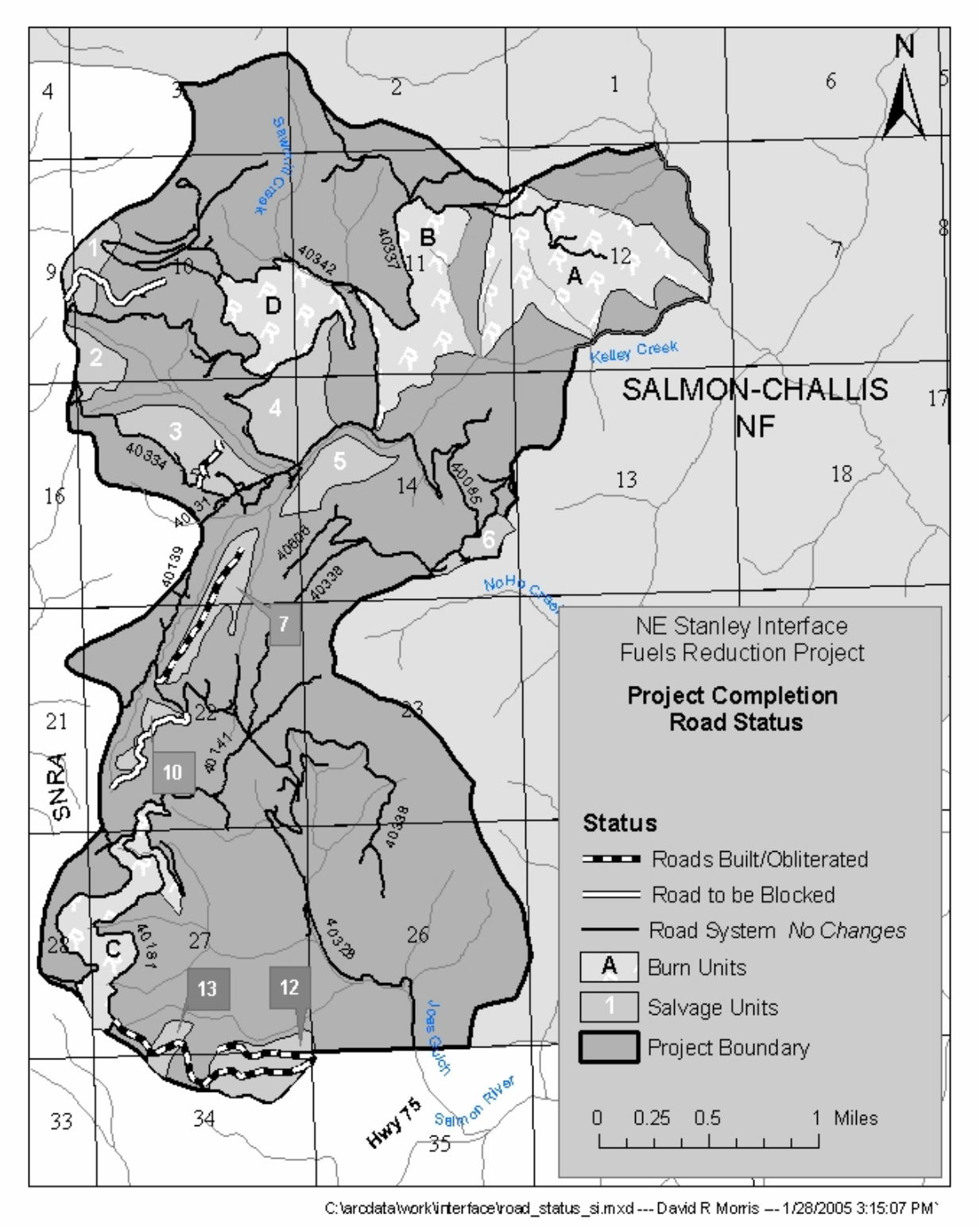

Figure 2. Proposed Unit Location and Road Activity Map

Table 1. Proposed Fuels Reduction Treatments by Unit

Unit	Acres	Prescribed Treatments
A	273	Utilize low to moderate intensity prescribed fire under predetermined and highly predictable conditions to burn 40-70 percent of unit. Restrict all operations between May 15 and June 30. Develop burn plan outlining acceptable and permissible fuel and weather conditions, firing, patterns, intensity levels and safety parameters needed to meet management objectives. Implement all RHCA design criteria; up to 30% RHCA allowed to burn from backing fire. Burn in mosaic pattern and reduce pockets of debris. Utilize roads, trails, topographic features, natural openings to contain fire. Limit handline construction to critical control locations. Avoid allowing fire to burn to Kelly Creek trail. Prohibit FS ORV use on Kelly Creek trail during prescribed burning activities. Pre-treat fireline by removing seedlings and saplings along edges. Utilize hand and/or aerial ignition techniques during spring or fall. Following ignition, utilize holding crews and fire engines to control fire behavior, allowing fire to burn out within predetermined boundaries. Limit hand mop-up activities. Assign patrol personnel to monitor fires until each burn is declared out or until adequate moisture is received to eliminate any chance of accidental re-ignition.
B C D	157 124 116	Same as for unit A. In unit B avoid constructing handline across placer ditches.
1 2 3 4 6a 7 10	39 32 83 99 24 54 16	Utilize crawler tractor and/or rubber tire skidder to yard felled snags and dying trees where slopes are less than or equal to 35 percent. Restrict all operations between May 15 and June 30. Evaluate suitability of allowing short-distance skidding on steeper slopes when/if discovered during unit layout. Implement all RHCA design criteria. Avoid areas with wet soils or evidence of subsurface water (willow, aspen). Designate landings and skid trails to move felled trees to landing sites; scarify and waterbar immediately after harvest. Limit skid trails to 10% of area. Ditch crossings in Units 3,4,7,10 would be designated by archeologist. Directionally fall trees away from ditches. Unit 3 boundary would be set back at least 100 ft. from any known structures and be approved prior to finalization. No hauling operations between December 1 and April 30 or when roads (653, 40031) aren't firm. Restrict hauling to Hwy 21 down Stanley Creek Road #653, and no hauling on weekends, holidays. Place warning signs on the open sections of Kelly Creek Road (#40031) to warn public of logging activities and traffic. Utilize brush-blade attachment to pile pre-existing and activity-generated slash. Limit pile diameter to 30 foot and burn piles after sale closure. Leave unmerchantable materials at landings for personal use fuelwood gathering. Leave 10-14 tons/acre of debris on-site for wildlife habitat and nutrient recycling; leave material on skid trails and in ephemeral draws. Maintain ground cover and slash on benches. Reseed skid trails with state certified 100% noxious weed seed free native grass seed mixture. If the sale administrator determines that heavily used skid trails have compacted soils, trails will need to be ripped before seeding to reduce soil compaction. If necessary, a soil scientist would be consulted to determine the need for ripping. Prior to leaving site in the fall, install water bars if temporary road is left open over winter and spring runoff season. Limit blading of existing roads to the minimum needed for log hauling, including rock and cut slough removal. Blading would not be on entire road surface; existing vegetation on the road would be retained wherever possible. Rip and seed roads at a time of

		year suitable for seedling establishment, preferably in fall prior to snowfall. Install water bars on road surface at the time of ripping. Reconstruct ditch crossings. Require harvest equipment to be cleaned of all mud, dirt, seeds or other plant parts from all off-road equipment. Inspection of cleaning by a Forest Service official must be made prior to moving into the project area. Cleaning must occur off National Forest lands.
5	51	Hand fell, pile and burn understory ladder fuels. Restrict all operations between May 15 and June 30. Burn piles during fall. Implement all RHCA design criteria; up to 30% RHCA allowed to burn from backing fire.
12 13	66 17	Same as for units 1,2,3,4,6a,7,10. Utilize suspended, cable yarding system to yard felled snags and dying trees where slopes exceed 35 percent. Yard pre-existing and activity-generated slash and leave materials at landings for personal use fuelwood gathering. Leave 10-14 tons/acre of debris on-site for wildlife habitat and nutrient recycling. Utilize a low intensity, fall underburn, as noted in unit A, to further reduce dead and down fuels and to remove 60 to 80 percent of 0 to 4-inch diameter ladder fuels to achieve management objectives.
Roads	N/A	Construct 0.9 miles of temporary road into unit 7 and 1.5 miles of temporary road into units 12 and 13. Restrict all operations between May 15 and June 30. After completion of yarding activities, require Contractor to obliterate all temporary roads. Obliterating would entail ripping the road into unit 7, recontouring the roads into units 12 and 13, and then reseeding these areas with native species of vegetation. Designate 0.6 miles of unclassified road (U111322K) as classified road and open to access unit 10 by removing earthen berms and drainage ditches, by removing tree encroachment and reshaping road. After completion of yarding activities, designate this road as Level 1and have Contractor block its entrance again to prevent its use. Obliterate 0.5 miles of unclassified road (U111315P) into unit 3. Recondition and maintain 9.2 miles of existing roads by reshaping, removing ruts, reestablishing drainages, cleaning out culverts and brushing shoulders to remove tree encroachment. Reconstruct road 40139 by reshaping for 0.8 miles and by replacing one culvert. Refer to specifications and exact locations contained in roads analysis report located in project files.
Post-Harvest Activities	N/A	After completion of yarding activities, lop damaged trees in mechanical treatment units. Restrict all operations between May 15 and June 30. Conduct underburn noted above in unit 12. Utilize weed treatments and attempt to eradicate noxious weeds from project area. Include these post-harvest activities and associated data tracking in a Sale Area Improvement Plan for implementation following sale closure.

DESIGN CRITERIA AND MITIGATIONS

During the design phase of the project various measures were incorporated to lessen potential impacts and to avoid potential resource damage. These measures are detailed in the treatment descriptions in Table 1. Appendix C lists a mitigation measure for the proposed action and displays its objective, the mechanism to enforce the action, and its effectiveness rating.

MONITORING

Information gathered before, during and after implementation of activities is used to determine the effectiveness of the project's design and associated mitigation measures. This establishes a feedback mechanism so management can develop and employ an adaptive learning curve. Monitoring is done at recurring intervals as a basis for Forest Plan implementation. Project effectiveness monitoring is done by sampling specific projects at specified time intervals. The activities associated with this proposed action would include monitoring of the following:

Riparian Habitat Conservation Areas: Implementation monitoring of prescribed burning activities within the RHCAs would be checked by fisheries, fuels, or fire personnel. During prescribed fire ignition a backing fire would be allowed to creep into the RHCA to burn in mosaic pattern up to 30 percent of the established area.

Road Obliteration: The effectiveness of road closure methods, road obliteration and erosion control would be periodically checked by range, recreation, soils, law enforcement, or timber personnel.

Soil Compaction: The effectiveness of prescribed Best Management Practices (BMPs) to rip and seed landing areas, and to redistribute residual slash over skid trails to help prevent erosion
would be checked by soils, hydrology, timber, or fisheries personnel.

Down Woody Debris: During sale administration the amount of debris left in the mechanical treatment units needs to meet recommended minimum levels. Accomplishment of this activity would be monitored by timber, fuels, or soils personnel.

Conservation of Canada Lynx Habitat: Coordination between the District Wildlife Biologist and Fire Management Officer during Burn Plan preparation would assure that potential lynx habitat is protected under the standards and guidelines of the Canada Lynx Conservation Assessment and Strategy. Particular emphasis would be given to protect denning habitat.

Northern Goshawk: Goshawk surveys for occupied nesting and/or post-fledging habitats were completed in portions of the project area during 1995, 1996, 2003 and 2004. No goshawks were found or are known to be using the project area or immediate vicinity for reproduction.

Heritage Resources Provisions: Treatment boundary locations, skid trail / ditch breach locations, and the rehabilitation of ditches would be monitored by sale administration or heritage resource personnel.

Noxious Weeds: Field surveys conducted during the summer of 2004 resulted in the discovery and treatment of noxious weed location sites within the project area and in nearby, adjacent areas. Sites where soil is newly exposed such as on construction of temporary roads, skid trails, landings, and pile and broadcast burning sites would be surveyed for noxious weed occurrence
by timber or range personnel. Any newly discovered noxious weeds would be treated.

ALTERNATIVE COMPARISON

Table 2 summarizes and contrasts the environmental consequences. Potential actions and outputs would cause these consequences. Chapter 3 discusses each environmental consequence in detail.

Table 2. Alternative Comparison of Project Activities

Issue & Concern Indicators	Alternative 1	Alternative 2

	No Action	Proposed Action
Issue 1 – Soil Resource		
Cumulative detrimental soil disturbance (ac and % of defined activity area)	161 (7.9)	218 (10.7)
Residual woody debris (tons/ac)	41	10-15
Issue 2 – Water Resource		
Modeled probability (%) there will be erosion / sediment delivery from proposed actions and fire	**no wildfire** erosion: 0 sediment delivery: 0 **wildfire on 30% of area** erosion: 72-84 sediment delivery: 78-84	**mechanical treatment areas** erosion: 0 sediment delivery: 0 **prescribed burn areas** erosion: 28-42 sediment delivery: 0-8
Equivalent clearcut acres (ac and % of subwatershed)	Kelly Ck - 267 (7.9) Joe's Gulch - 103 (5.7)	Kelly Ck - 322 (10.4) Joe's Gulch - 103 (5.7)
Compliance with State water quality standards and maintenance of beneficial water uses	**no wildfire**: yes **with wildfire**: no	yes
Road densities for sub-watersheds (mi/mi^2)	Kelly Ck – 4.9 Joe's Gulch – 3.6	Kelly Ck – 4.8 Joe's Gulch – 3.6
Watershed risk rating – based on watershed gradient, road densities, and percentage of the watershed in stands less than 30 years old (high, moderate or low)	**no wildfire** Kelly Ck -high Joe's Gulch - moderate **wildfire on 30% of area** Kelly Ck - high Joe's Gulch - high	Kelly Ck - high Joe's Gulch - moderate
Issue 3 – Fire - Risk to Life and Property		
High risk stands receiving treatment (ac)	0	mechanical: 481 prescribed burn: 670
Fuel loading (tons/ac): Existing Modeled accumulation	14 +27	14 +0
Fire rate of spread (chains/hr) Probable method of spread	60 crown fire	8 surface fire
Issue 4 - Wildlife Species and Habitats		
Canada lynx: Potential habitat impacted w/i LAU (%) Potential den habitat impacted w/i LAU (%) Other wildlife species: Total tree cover w/i mechanical tmt units (%) Overstory tree cover w/i Rx burn tmt units (%)	 0 0 67 54	 2 0.2 56 54
Issue 5 – Fish Species and Habitats		
Probability of sediment delivery (%)	without wildfire: 0 with wildfire: 78-84	mechanical units: 0 burn units: 0-8